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MONTANA DEPARTMENT OF LIVESTOCK
VERTEBRATE PEST CONTROL BUREAU
BRANDS-ENFORCEMENT DIVISION
HELENA, MONTANA 59601

VERTEBRATE PEST MANAGEMENT IN MONTANA

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VERTEBRATE PEST MANAGEMENT IN MONTANA

ABSTRACT

The State Department of Livestock has statutory authority to formulate and conduct a practical predatory animal, field rodent, and wildlife rabies control program in Montana. The primary purpose of this program is to prevent or reduce the destruction of food, fiber, or natural resources caused by predatory animals and field rodents, plus alleviate problems caused by those species which may endanger human health or safety. Cooperative agreements, including joint funding, are entered into with the U.S. Fish & Wildlife Service, the Montana Department of Fish, Wildlife & Parks, county governments, and individual agricultural organizations. Approximately one and a half million dollars are spent annually by cooperating parties for implementation of the program. This paper discusses the specific goals, objectives, methods, and procedures for Montana's Vertebrate Pest Management Program.

INTRODUCTION

History

From the early 1900's, the federal government administered and supervised animal damage control activities in Montana. The State of Montana, Department of Livestock, began implementing a vertebrate pest management program in 1972 following President Nixon's Executive Order 11643, Environmental Safeguards on Activities for Animal Damage Control on Federal Land. This executive order prohibited the U.S. Fish & Wildlife Service from conducting skunk rabies control utilizing toxicants on federal, state, and private lands. This situation forced Montana into taking an active role in field operational vertebrate pest management. Following President Nixon's executive order, additional federal restrictive regulations, policies, and budgets generated further involvement by the state in field rodent and predatory animal control programs. Presently the Montana Department of Livestock conducts field rodent and wildlife rabies control programs. Predatory animal control has continued under a state-federal cooperative agreement with the state now participating jointly in the operation of the program.

Funding

Funding for Montana's vertebrate pest management program for fiscal year 1980 is indicated in Table 1. Predatory animal control funding for the Department of Livestock is derived from a mill levy on sheep, cattle, and other classes of livestock. The Department of Fish, Wildlife & Parks contributes monies from sportsmen's license fees. U.S. Fish & Wildlife Service appropriations are provided by Congressional action. Counties provide funding by requiring a sheep license fee on all sheep coming one year or older. Livestock associations tax themselves according to their own specific needs.

Field rodent control funding is obtained from general fund budgeting by the State Legislature for the Department of Livestock. County governments participate financially by utilizing a maximum of $10,000 from their general fund, or by placing a 2 mill levy on all agricultural products, including timberland. Agricultural organizations tax themselves based upon their specific needs. In addition, landowners may purchase and apply bait themselves.

The wildlife rabies control program is funded by the Montana Legislature through the general fund for the Department of Livestock. The Department of Fish, Wildlife & Parks provides financial assistance through sportsmen's license fees.

Approximately one and a half million dollars are spent annually by cooperating federal, state, and county agencies and local agricultural organizations for implementing Montana's vertebrate pest management program. The program is divided into three general areas: predatory animal control, field rodent control, and wildlife rabies control.

Personnel

The Montana Department of Livestock, Vertebrate Pest Control Bureau, employs on a full-time basis, a Bureau chief, one secretary, three wildlife biologists, and three helicopter pilots for administration, supervision, and operation of the overall program. Temporary employment is contracted for rabies control agents, field research assistants, and special projects. The U.S. Fish & Wildlife Service provides a State Supervisor, three secretaries, three district supervisors, and 22 district field assistants for predatory animal control. Additional contract fixed wing and helicopter services are also provided by the Fish & Wildlife Service.

County governments utilize their own funding and employees for field rodent control in cooperation with the Department of Livestock. However, counties generally provide funding to the U.S. Fish & Wildlife Service for predatory animal control except in Montana's largest sheep producing counties where some local trappers and pilots are employed and supervised directly by the county.

Table 1. Fiscal Year 1980 Funding for Montana's Vertebrate Pest Management Program.

Predatory Animal Control:	
Department of Livestock	$ 136,000
Department of Fish, Wildlife & Parks	65,000
U.S. Fish & Wildlife Service	540,000
County Governments	229,000*
Livestock Associations	75,000*
TOTAL	$1,045,000
Field Rodent Control:	
Department of Livestock	$ 40,183
County Governments	150,000*
Agricultural Organizations	100,000*
TOTAL	$ 290,183
Wildlife Rabies Control:	
Department of Livestock	$ 10,000
Department of Fish, Wildlife & Parks	15,000
TOTAL	$ 25,000
GRAND TOTAL	$1,360,183

*Estimated funding for fiscal year 1980.

PREDATORY ANIMAL CONTROL

Livestock Losses

Predatory animals are of concern to many ranchers engaged in several types of livestock enterprises; however, sheep and cattle ranchers are the groups most directly affected. Various species of predators are involved in predation, but by far the greatest concern at the present time is coyote predation on sheep and calves. Lesser problems exist with other predator species. Bears are involved in some sheep and cattle losses, and mountain lions occasionally kill domestic livestock. Fox, bobcats, raccoon, skunk, and other predator species do take poultry and other small farm animals, but not at the economic injury level as demonstrated by coyotes.

The frequency of predation problems seems to fall within three general categories in Montana. First, chronic problems occur from year to year in certain areas during April through October with high lamb losses. Calf losses occur from March through May. Secondly, seasonal problems occur each year with sporadic predation at times reaching chronic proportions. However, the total amount and duration of intensity fluctuate greatly from month to month and from year to year. Thirdly, irregular predation problems exist when livestock producers have little or no consistent annual predation problems. Then livestock producers may experience losses of chronic proportions usually lasting only a short period of time.

Montana sheep and calf losses to coyotes is shown in Tables 2 and 3, as reported by the U.S. Fish & Wildlife Service for fiscal years 1972-1979. U.S. Fish & Wildlife Service officials express these loss figures only as measurements of trends in losses from year to year, and they may represent only 10% of the actual livestock losses in Montana.

Objectives

The primary objective of Montana's predatory animal control program is to prevent and/or reduce the killing, destruction, maiming or injury caused by predatory animals to domestic livestock and poultry. Local population control of predatory animals causing livestock and poultry damage is also an objective of the program. Control is limited to the troublesome species, preferably to the troublesome individuals, and in any event, to the localities where damage or danger exist. Additional objectives include evaluation and study of livestock predator damage assessment, dynamics of predator populations, and improved control methods or techniques.

Table 2. Montana Sheep Losses to Coyotes Reported by the U.S. Fish & Wildlife Service for Fiscal Years 1972-1979.

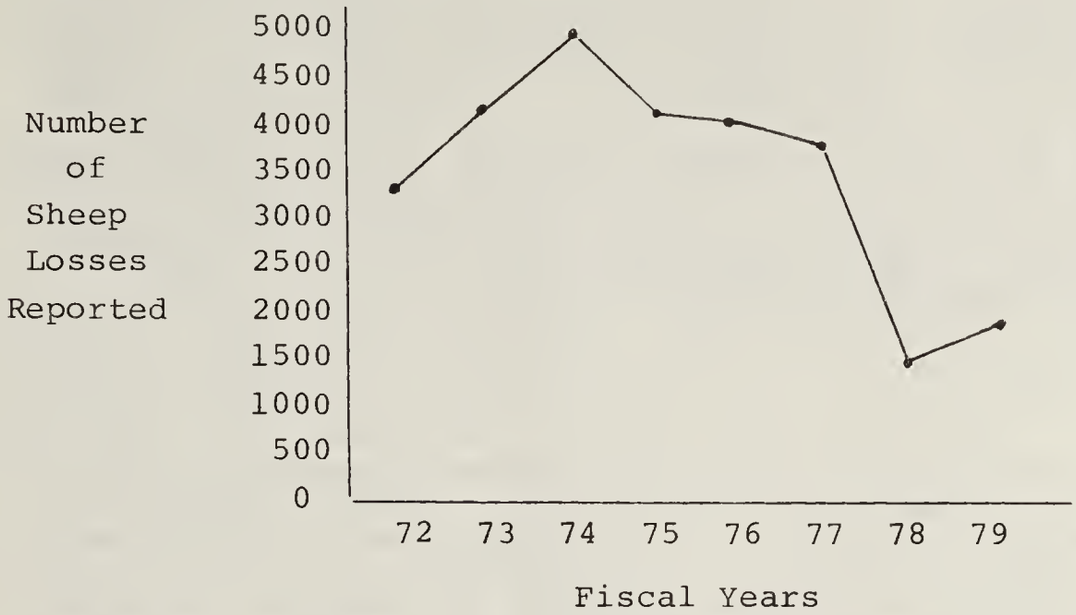
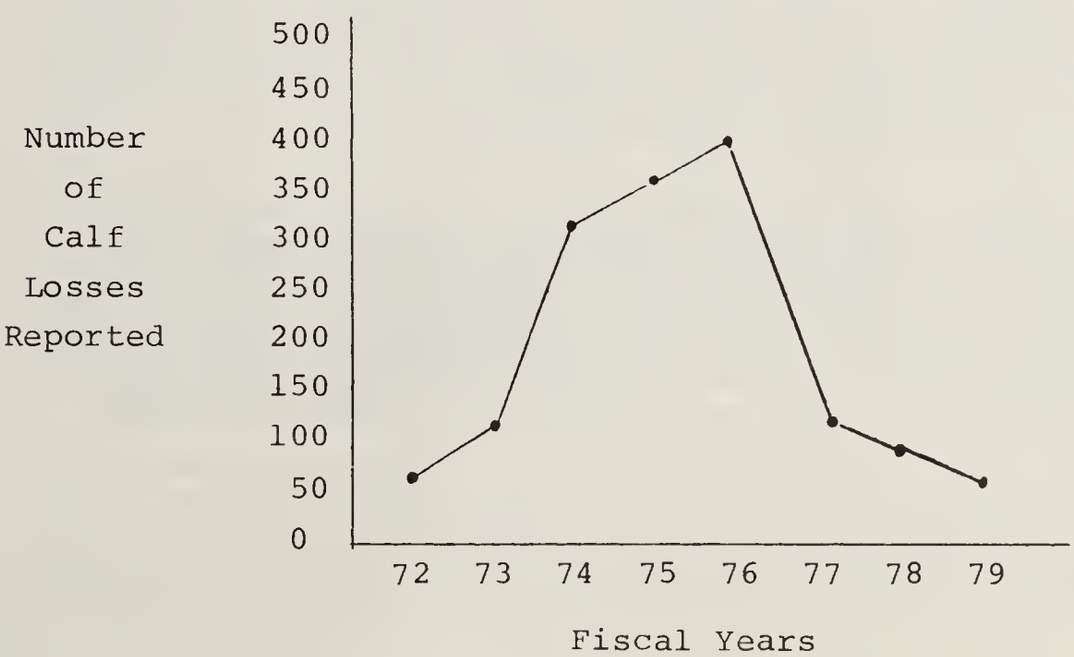


Table 3. Montana Calf Losses to Coyotes Reported by the U.S. Fish & Wildlife Service for Fiscal Years 1972-1979.



Helicopter Program

Recognizing the significant increase in sheep and calf losses in 1973, Montana's livestock producers requested the Department of Livestock to initiate a helicopter program for the prevention and/or reduction of livestock losses from coyotes. From 1974 to 1976, the Department of Livestock operated one helicopter, utilizing county, state, and federal trappers as gunners to service livestock producers in areas where fixed wing aircraft were less effective in stopping predation. The first helicopter proved very effective in the rough mountain terrain found in western Montana, as well as the brushy coulees and badlands of central and eastern Montana.

Today the Department of Livestock has three helicopters, obtained through federal loan agreements and surplus property purchases. These helicopters operate throughout the state for the prevention and reduction of livestock losses due to coyotes. The Department's helicopter program is conducted on the following priority basis: 1) maintenance of the helicopters; 2) answering civil defense requests; 3) scheduling and servicing county and federal trappers; 4) assisting livestock operators in finding sick or injured livestock, or searching for missing livestock in conjunction with aerial hunting; and 5) providing service for special projects.

The Department of Livestock exercises overall administration and supervision of the state helicopters. The helicopters travel from trapper to trapper on an approximate 3-day rotation schedule. Since the state helicopters are on a fixed rotation system, the U.S. Fish & Wildlife Service utilizes contract aircraft to handle specific depredation problems. The local trapper is responsible for obtaining written permission from the landowner, administrator, or lessee to use the Department of Livestock helicopters for aerial hunting. A summary of the helicopter program for fiscal years 1977 through 1980 is found in Table 4 (page 8).

The efficiency of the Department of Livestock's helicopter program is attributed to the cooperation of the county and federal trappers. Scheduling the helicopters on a regular rotation basis allows for the maximum amount of hunting time with minimum amount of cost. For these reasons, plus obtaining a pilot-mechanic, the Department of Livestock has been able to operate the three helicopters at a cost effective level.

Aerial Hunting Permit System

The aerial hunting permit system has been in effect in Montana since 1974. This system allows qualified pilots to take coyotes or foxes in areas experiencing livestock losses to predators. Prior to 1979, the system was regulated by the Federal Airborne Hunting Act and enforced by the Law Enforcement Division of the U.S. Fish & Wildlife Service. The Montana Department of Livestock was responsible for the supervision and issuance of permits to the pilots and gunners. In 1979, the Montana Legislature passed an aerial hunting law authorizing the Department of Livestock to issue permits and to enforce the provisions of the State law.

Aerial hunting has proven to be of significant help in reducing livestock losses. The pilots are required to hunt only on lands where livestock producers request aerial hunting to alleviate losses to predators. Immediate neighbors may also give permission for aerial hunting over their lands to help other ranchers who are having coyote or fox predation problems. A brief summary of the Department's aerial hunting permit system since 1974 is found in Table 5.

Aerial Hunting Evaluation

The Department of Livestock, in conjunction with the Montana Cooperative Extension Service, is presently evaluating new aerial hunting techniques. Funding for the project is provided by the U.S. Department of Agriculture, beginning in October 1979 and lasting for two years. Methods being tested are the use of two aircraft hunting together--helicopter and fixed wing or two fixed wing. Additionally, ground units, including motorcycles and snowmobiles, will be used to move coyotes out of brushy or timbered areas where they can be more easily taken by aerial hunting. Other techniques to be evaluated are hunting over carcass bait stations used in timbered terrain, the use of sirens on the ground to locate the presence of coyotes, and the use of search lights on a helicopter for night hunting.

This study is designed to work with farmers and ranchers in making aerial hunting more effective in managing coyotes where they are killing livestock. Cost effectiveness and aerial hunting efficiency in preventing and/or reducing livestock losses from coyotes are the main objectives of the project.

Table 4. Montana Department of Livestock Helicopter Program

	FY 1977	FY 1978	FY 1979	FY 1980
Helicopters	2	2	2.5	3
Hours Flown	1,198	1,590	1,694	1,756
Coyotes/Foxes Taken	1,947	2,413	1,924	1,731
Coyotes/Foxes Per Hour	1.9	1.5	1.4	1.0
Cost Per Hour	$83	$60	$83	$104
Total Cost	$99,400	$95,600	$139,900	$182,400

Table 5. Montana Department of Livestock Aerial Hunting Permit System.

	1974	1975	1976	1977	1978	1979
Pilots	34	43	61	77	80	103
Hours Flown	1093	1886	3529	4000	3254.5	3042
Coyotes Taken	941	2290	4358	5587	5311	3794
Foxes Taken	140	155	228	223	403	273
Coyotes/Fox Per Hour	0.98	1.29	1.29	1.45	1.75	1.33
Ranchers Serviced	801	1346	1066	1153	1402	1571

M-44 Program

In 1974 the U.S. Environmental Protection Agency announced that Experimental Use Permits could be allowed under Section 5 of FIFRA, as amended, for using sodium cyanide in the M-44 spring-loaded ejector device to control coyotes preying on livestock. The Montana Department of Livestock and U.S. Fish & Wildlife Service were granted separate Experimental Use Permits to test the new M-44 device utilizing sodium cyanide.

After determining the M-44 device (using sodium cyanide) was selective, efficient, humane, economic, and environmentally safe, the U.S. Environmental Protection Agency granted the U.S. Fish & Wildlife Service and the Montana Department of Livestock registrations in 1975. Presently, the M-44 device is still utilized in Montana's predatory animal control program by approximately 50 government, commercial, and private applicators.

FIELD RODENT CONTROL

Damage Problem

Ground squirrel, prairie dog, and pocket gopher damage to food, fiber, and natural resources in Montana is widespread and locally sever. A 1973 survey of USDA Committees for Rural Development, Conservation Districts, and other agricultural groups, listed more than 9.1 million dollars economic loss due to damage by these species. The loss was distributed as follows: $4.7 million - Richardson ground squirrel; $2.4 million - pocket gopher; $1.2 million - Columbian ground squirrel; and $0.7 - prairie dog.

Types of damage frequently seen are the destruction of range and pasture forage, destruction of cultivated crops, and damage to harvesting equipment. Another type of damage which may be significant but not well defined in Montana is erosion enhancement.

Control Program

Prior to 1975, Montana's field rodent control program was administered and supervised primarily by the federal government through the U.S. Department of Agriculture, Bureau of Biological Survey, and the U.S. Department of Interior, Fish & Wildlife Service. By 1970, however, the federal field rodent control program in Montana was terminated except for the sale of grain baits, gas cartridges, and other control materials.

The Montana State Legislature, in 1975, enacted legislation giving the Department of Livestock authority to administer and supervise a state rodent control program. This action was taken at the request of agriculture producers and based upon a recommendation of a Governor's Advisory Council on Rodent and Rabid Skunk Control.

The primary objectives of Montana's field rodent control program are: 1) aiding in the implementation and operation of local control programs; 2) public information and education; 3) evaluation of present control methods; and 4) research and development of new control methods. Damage assessment is an additional objective with research pending available funding.

Presently, Montana's field rodent control program is based upon local organization and operation with technical assistance provided by the Department of Livestock. Since 1975, Rodent Control Boards have been appointed by Boards of County Commissioners in those counties desiring an organized rodent control program. Department of Livestock Vertebrate Pest Control Bureau biologists work with these Boards to aid in planning, operating, and evaluating county programs. Rodent control personnel hired by the counties are trained by the Bureau biologists in the biology and ecology of pest species, proper control techniques, and environmental and human safety. Upon completion of the training and passing a written examination, the county personnel are licensed as government pesticide applicators by the Montana Department of Agriculture.

Information & Education Program

The information and education program consists of public rodent control training sessions and publication of control bulletins. The training sessions include slide presentations about the biology and control of pest species and field demonstrations of control techniques. These sessions provide opportunities to discuss such things as proper bait application techniques, proper timing of baiting programs, limiting baiting to once per year, and the alternatives to the use of toxic baits such as trapping, shooting, toxic gases, and habitat manipulation. Bulletins dealing with the biology and management of Montana field rodents are prepared by the Department of Livestock and provided to County Extension Agents and bait dealers for distribution to the public.

Evaluation

Field tests to determine the efficacy and cost comparison of strychnine, compound 1080, and zinc phosphide grain baits for Columbian ground squirrel, Richardson ground squirrel, and black-tailed prairie dog control began in 1976 with the results shown

in Tables 6, 7, and 8. In western Montana, strychnine grain baits were found ineffective for controlling Columbian ground squirrels, however, 1080 grain bait reduced Columbian ground squirrel populations 95 to 99 percent. Following these investigations, the U.S. Environmental Protection Agency granted Montana a specific exemption to use 1080 grain bait in western Montana for Columbian ground squirrel damage control. Additional research in 1979 revealed zinc phosphide grain baits inadequate for Columbian ground squirrel damage control. Strychnine grain baits for Richardson ground squirrel control in central Montana did prove effective and is continuing to be used.

Comparison of strychnine, zinc phosphide, and 1080 grain baits for black-tailed prairie dog control in central and eastern Montana has been evaluated for the past four years. These studies have revealed that zinc phosphide must be prebaited to be as effective as strychnine grain bait. This doubles the labor effort and many farmers and ranchers have been reluctant to use this technique. Laboratory analysis revealed the U.S. Fish & Wildlife Service bait varied significantly in strength and was considerably less than the 2% level specified on the label. Compound 1080 grain bait has been found to be more effective than strychnine or zinc phosphide. Until a more reliable zinc phosphide bait can be produced, we do not recommend the replacement of strychnine or 1080 grain bait by zinc phosphide for field rodent control.

Table 6. Efficacy and Cost Comparison of Certain Rodenticides for Columbian Ground Squirrel Damage Control.

Rodenticide	Percent Reduced	Cost Per 100 Burrows
1080 Oat Groats	99.8	$ 3.11
Gas Cartridges	72.5	$53.14
Strychnine Oats	64.8	$ 3.05
Zinc Phosphide Cabbage	61.5	$ 8.47
Zinc Phosphide Oats	41.5	$ 3.16
Strychnine Cabbage	9.3	$ 9.58

TABLE 7. Economic and Efficacy Analysis of the Cyclone Seeder for Richardson Ground Squirrel Damage Control Compared to Hand Baiting

Method of Application	Bait Density By Application Rate	Percent Vegetation Cover	Percent Reduced	Total Cost/Acre
Strip--Skip 20 ft.	10 lbs/swath/acre	35%	97%	$3.68
Hand Baiting	0.22 oz/entrance	95%	94%	$3.94
Strip--Skip 20 ft.	6 lbs/swath/acre	70%	90%	$2.24
Strip--Skip 100 ft.	6 lbs/swath/acre	50%	88%	$0.86
Broadcast	3 lbs/acre	75%	87%	$2.55

TABLE 8. Efficacy and Cost of Cyclone Seeders, Motorcycle Dispensers, and Hand Baiting for Black-Tailed Prairie Dog Damage Control Using Strychnine-Treated Bait

Method of Application	Minutes Per Acre	Percent Reduced	Total Cost/Acre
Motorcycle	4.3	88%	$0.62
Cyclone Seeder	1.0	78%	$2.77
Hand Baiting	8.6	74%	$0.91

Research & Development

Research in developing improved control methods began with the difficulties in hand-baiting large acreages of range, pasture, and crop lands infested with Richardson ground squirrels in central Montana. Field tests were conducted in 1977 to determine whether broadcasting strychnine grain bait with a vehicle-mounted cyclone seeder would be safe, effective, and economical.

A cyclone seeder was mounted on the front bumper of a 4-wheel drive vehicle. Application rates were calibrated using the methods developed by Marsh (1967) for calibration of aerial-applied bait. Application rates proving effective were 3 to 10 pounds per swath-acre at intervals from zero to 100 feet between the 20-foot wide swaths. Since 1978, the cyclone seeder has been utilized by many farmers and ranchers for distribution of strychnine grain bait for Richardson ground squirrel damage control.

The use of mechanical bait dispensers mounted on motorcycles to apply grain bait for prairie dog damage control was tested in eastern Montana. Modification of a bait dispenser used by the U.S. Forest Service in South Dakota has proven very sturdy and reliable. Field testing has shown the motorcycle dispenser to be a very effective and cost-saving method of dispensing bait for prairie dogs and ground squirrels. One man using a motorcycle dispenser can treat three or four times the area compared to a man hand-baiting on foot. Bait and labor costs are approximately 65¢ with the dispenser per acre, compared to 90¢ per acre for hand baiting while walking.

WILDLIFE RABIES CONTROL

History

Animal rabies was infrequently reported in Montana prior to the mid-1960's. Sporadic outbreaks were reported in domestic species, primarily dogs. The first case of skunk rabies was diagnosed in 1964. An infected striped skunk was found in Fallon County in southeastern Montana. From 1964 through June 1980, a total of 433 cases of skunk rabies has been diagnosed in 24 counties. The majority of cases have been detected in north-central and eastern Montana (Figure 1).

Skunks are the primary hosts for the disease in Montana. The disease may have come from known skunk rabies areas of Saskatchewan and North and South Dakota. To date, no case of skunk rabies has been detected in western Montana.

Although skunk rabies is common throughout most of Montana east of the Continental Divide, it is not widespread throughout entire skunk populations. Research has shown that apparent "pockets" of rabid animals exist throughout broad regions of skunk habitat. While rabies can be contracted by all warm-blooded animals, skunk rabies does not move like an epidemic through other animal populations.

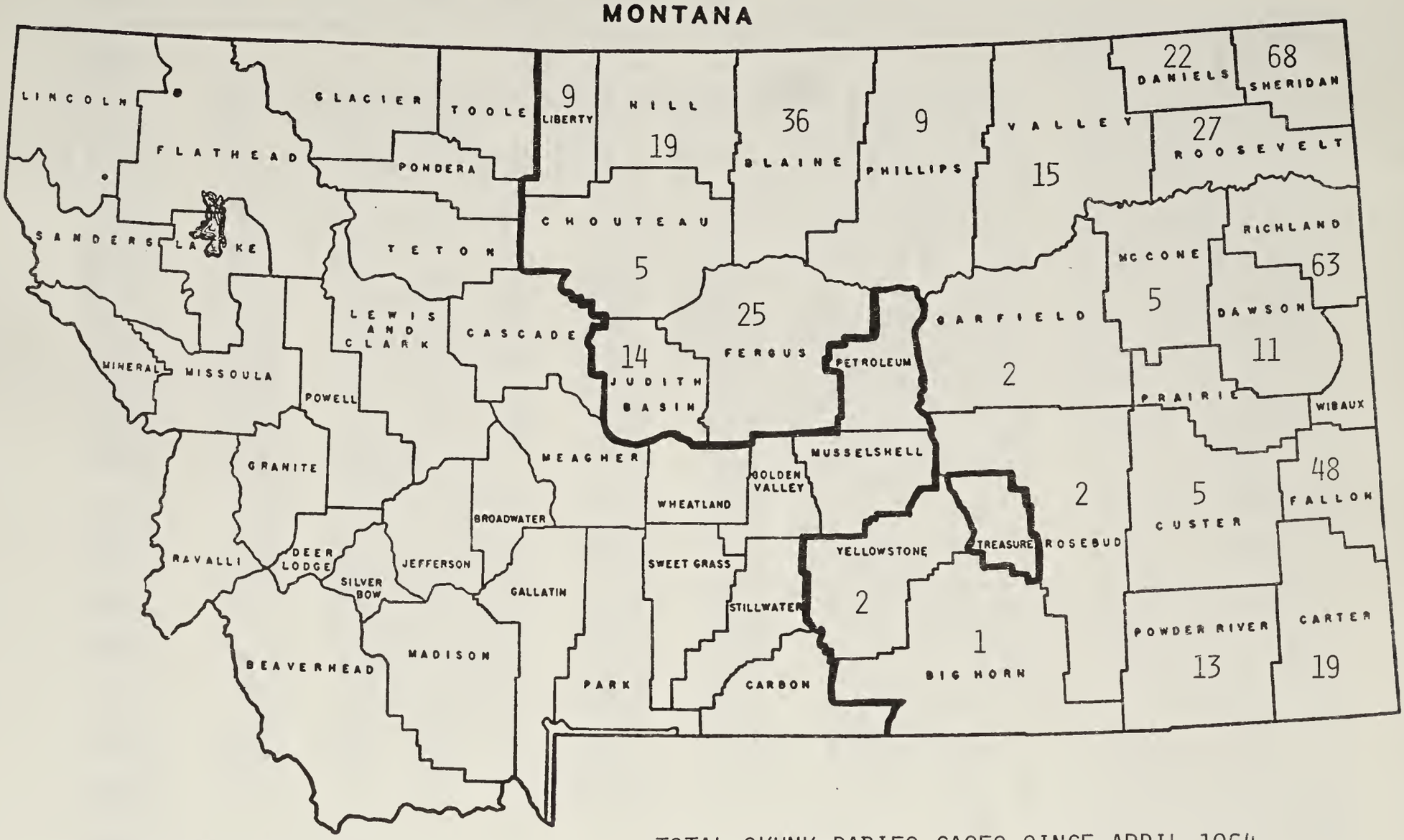
Skunk rabies cases have been diagnosed in all months of the year (Table 7). Data collected since the first case in 1964, however, indicates the months of April, May, June, and July have the highest incidences. Of the 433 rabid skunks collected during the 17-year interval, 68 percent were collected during this four-month period.

Policy

A skunk rabies control program of trapping and shooting was initiated during March of 1973 by the Montana Department of Livestock to suppress skunk populations in the immediate vicinity of confirmed rabid skunk cases. These control measures were ineffective and costly. Costs of using steel traps were extremely high and considered impractical for the scope of the rabies problem in Montana. Additionally, trapped skunks proved a hazard to people and domestic animals since the trapped animal would frequently attract attention. Dogs fighting with a trapped, rabid skunk may become exposed and people attempting to free the skunk could be bitten or scratched.

In May of 1973, the Montana Department of Livestock began using strychnine-treated eggs in an emergency skunk rabies control program. The U.S. Environmental Protection Agency announced it had no objection to the Department of Livestock conducting a rabies control program using strychnine-treated eggs and has continued to issue approval for the past seven years.

FIGURE 1. SKUNK RABIES CASES, FISCAL YEARS 1964-1980



No. 1050 — County Outline Map
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TOTAL SKUNK RABIES CASES SINCE APRIL 1964:

433

Table 7. Summary of Positive Rabid Skunk Cases Occurring in Montana from April 21, 1964, through June 30, 1980.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1964				2							1	1	4
1965	2											1	3
1966	1	3	2	7	1								14
1967					1	1		1					3
1968					2	4			1			1	8
1969	1	1	1			1							4
1970												1	1
1971						1							1
1972						1	2	2					5
1973			2	11	8	4	2	1	2	2	4	2	38
1974	1	9	2	16	6	3	2			1	1	3	44
1975	3	3	6	31	37	23	31	2	1	6	6	5	154
1976	6	7	7	19	5	10	8	3	4	1	1	2	73
1977		3	5	4	10	2	3	6	1		2	1	37
1978	1			2	1	2	6	2					14
1979			1	2	1	1			1			1	7
1980	1	2	2	5	4	4	5						23
TOTALS	16	28	28	99	76	57	61	17	9	10	15	17	433

(Information collected from the Montana Department of Livestock Diagnostic Laboratory, Bozeman, Montana)

Since the beginning of the Department of Livestock's skunk rabies control program in June 1973, considerable information has been collected concerning: 1) the effectiveness of strychnine-treated eggs in reducing skunk populations within established control areas; 2) the effects of strychnine-treated eggs on nontarget species; 3) the foci of skunk rabies in an area using surveillance activities; and 4) the most effective means of implementing a skunk rabies control program in Montana. These data resulted in the adoption of a formal Skunk Rabies Policy by the Montana Department of Livestock on January 21, 1975. This policy states:

> "It shall be the policy of the Department of Livestock as adopted by the Board of Livestock on January 21, 1975, that when it is determined by the State Health Officer of the Department of Health and Environmental Sciences or the State Veterinarian of the Department of Livestock that the proximity of rabid skunks to humans or livestock poses a danger to the health of either or both, then the Department of Livestock may pursue one or more of the following approaches:
>
> 1. Control of skunk populations within a three-mile radius encompassing areas of human or domestic animal habitation where rabies has been diagnosed in skunks.
>
> 2. Surveillance of skunk populations outside the three-mile radius in order to determine the perimeter of rabies within any county and/or adjacent counties.
>
> 3. Surveillance of skunk populations to monitor the migration of rabies as a known disease in Montana and to support encephalitis studies in skunks from which rabies is clinically indistinguishable. (This is a research-oriented effort to determine if rabid skunks are spreading in Montana, and if so, to institute early control procedures before an outbreak reaches emergency proportions.)
>
> 4. Provide an information-education program on skunk rabies in counties where skunks are determined the vector species."

Since the adoption of the Skunk Rabies Control Policy by the Department of Livestock in 1975, skunk rabies control and/or surveillance programs have been initiated in 24 of Montana's 56 counties.

Methods & Procedures

The skunk rabies control program is conducted by rabies control agents hired on a part-time basis by the Montana Department of Livestock. These agents are trained and supervised by Department of Livestock biologists and licensed by the Montana Department of Agriculture. Provisions for using strychnine-treated eggs or baits by rabies control agents are as follows:

1) All personnel using the eggs and baits will be trained, licensed pesticide applicators. Only employees or authorized agents of the Department of Livestock are allowed to use the baits.

2) Rabies control agents will obtain permission from Montana Department of Livestock biologists before any skunk control work is initiated.

3) The eggs and baits will be placed only on lands where a premise entry agreement has been signed by the landowner, administrator, or lessee.

4) A maximum of 500 strychnine egg baits or lard baits may be placed within a three-mile radius per positive rabies case where skunks are determined as the vector species, or per county for surveillance purposes.

5) A maximum of two strychnine egg baits or lard baits per setting may only be placed in the following skunk habitat: skunk dens, holes, garbage dumps, road culverts, junk piles, or under nonoccupied buildings. No baits may be placed in the open, but must be under cover at all times.

6) Each strychnine egg bait will be stamped at least 3 times in red with the word "POISON."

7) The eggs and baits will contain a green dye for identification purposes.

8) Each egg will be injected with 1 cc of strychnine solution. This strychnine solution will be premixed and furnished by Department of Livestock personnel.

9) Warning signs will be placed at premise entry locations. Stake warning signs will be stationed within three feet of placed eggs and lard baits.

10) Treated eggs and lard baits remaining after a 30-day period from date of placement will be collected and destroyed.

11) All retrieved and excess eggs and baits will be disposed of in a sanitary landfill and animals taken with baits will be buried to prevent possible nontarget species poisoning.

12) All prepared eggs and baits will remain under lock and key until time of usage.

SUMMARY

The State of Montana recognizes that the ecological impact of vertebrate pest management is very complex and is continuably striving for solutions which will provide for both human health and domestic livestock protection, while maintaining environmental quality. The State also acknowledges that wildlife and domestic livestock are resources of inherent interest and value to the people of Montana and our Nation, but also recognizes the parallel need and responsibility for conducting a vertebrate pest management program where resource conflict situations develop. It is with this understanding that Montana conducts it's Vertebrate Pest Management Program.

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